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7590 Jonathan P Meyer Motorola Inc Intellectual Property Section Law Department 1303 East Algonquin Road Schaumburg, IL 60196				
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ARTHUR LALLET, PAOLA HOBSON, and
ANTHONY RICHARD MAY

Appeal 2008-1359
Application 10/070,202¹
Technology Center 2600

Decided: January 15, 2009

Before KENNETH W. HAIRSTON, MAHSHID D. SAADAT, and KARL
D. EASTHOM, *Administrative Patent Judges*.

HAIRSTON, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants seek our review under 35 U.S.C. § 134 from the
Examiner's final rejection of claims 1 to 14, 51, and 52.² We have
jurisdiction under 35 U.S.C. § 6(b).

¹ Application filed March 4, 2002, claiming benefit of priority under 35
U.S.C. § 371 from international application PCT/EP01/08396, filed on July
19, 2001. The real party in interest is Motorola, Inc.

We reverse.

The Invention

Appellants' claimed invention is directed to a method and apparatus for controlling the amount of data used to transmit still images during or after the transmission of a video sequence (Spec. 1-2; claim 1). *Intraframe* encoding can be performed for both still and video sequences, while *interframe* encoding is performed only for video sequences (Spec. 5 and 7-9). Appellants' claimed invention includes an "encoding means" for intraframe encoding still images and video sequence frames, a "calculating means" to determine the data size of intraframe encoded video sequence frames, and a "control means for controlling intraframe only encoding of still images for transmission in dependence on the determined intraframe encoded size of a previous video sequence frame" (claim 1).

Claim 1 is representative of the claims on appeal, and reads as follows:

1. Apparatus for controlling the amount of data used to transmit still images during or after the transmission of a video sequence from a first to a second location, the apparatus comprising:

encoding means arranged for intraframe only encoding of still images for transmission and intraframe encoding part or all of selected video sequence frames;

calculating means for determining the data size only of intraframe encoded video sequence frames; and

² Claims 15 to 50 stand withdrawn by the Examiner as being drawn to a non-elected invention.

control means for controlling intraframe only encoding of still images for transmission in dependence on the determined intraframe encoded size of a previous video sequence frame.

The Rejection

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Riek	US 5,987,179	Nov. 16, 1999
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The Examiner rejected claims 1 to 14, 51, and 52 under 35 U.S.C. § 103(a) as being unpatentable based on the teachings and suggestions of Riek.

ISSUE

Appellants contend that Riek fails to teach the limitation of a “control means for controlling intraframe only encoding of still images for transmission in dependence on the determined intraframe encoded size of a previous video sequence frame.” (Br. 8).

The Examiner contends that Riek teaches this limitation at column 7, lines 40 to 50, and contends that Riek encodes enhancement pictures which depend on previously encoded pictures of a Group of Pictures (“GOP”) (Ans. 3-4 and 13).

The limitation of “controlling intraframe only encoding” of still images “in dependence on the determined intraframe encoded size of a previous video sequence frame” occurs in both independent claims 1 and 8 (*infra* Finding of Fact 2).

Accordingly, the sole issue is: Did the Examiner err in determining that Riek teaches “controlling intraframe only encoding” of still images “in

dependence on the determined intraframe encoded size of a previous video sequence frame,” as required by all of the claims on appeal?

Rather than repeat the arguments of Appellants or the Examiner, we refer to the Brief³ and the Answer⁴ for their respective details.

FINDINGS OF FACT

The findings of fact throughout this decision are supported by a preponderance of the evidence of record.

Appellants’ Disclosure

1. Appellants describe and claim a method and apparatus for controlling the amount of data used to transmit still images during or after the transmission of a video sequence including an encoding means, calculating means, and control means (Fig. 3; Spec. 1-2; claim 1; *see* claim 8 which recites steps corresponding to the encoding, calculating, and control means recited in claim 1).

2. Claim 1 recites “means for controlling ...” and claim 8 recites a step for “controlling ...” (claims 1 and 8, respectively). The last clause of Appellants’ claims 1 and 8 recites a function of “controlling intraframe only encoding” of still images “in dependence on the determined intraframe encoded size of a previous video sequence frame” (claims 1 and 8) (hereinafter, “the control limitation”).

³ We refer to the Appeal Brief filed December 30, 2006, throughout this opinion.

⁴ We refer to the Examiner’s Answer mailed April 24, 2007, throughout this opinion.

Riek

3. Riek discloses an apparatus (Figs. 1 and 2) for controlling the amount of data used to transmit still images during or after the transmission of a video sequence by allowing a user to select a quantization amount with a quality adjustment selector 18 (col. 4, l. 15 to col. 5, l. 38). Riek's apparatus (Fig. 2) includes an MPEG encoder 30 capable of interframe and intraframe encoding, and a logic and control unit 32 which determines the data size of currently encoded video sequence frames and controls encoding of still images based on input from quality adjustment selector 18 (col. 5, ll. 7-9).

4. Riek teaches that for *video sequences*, a “rate control scheme is employed to determine approximately how many bits to spend on each picture” [e.g., I, B, or P] (col. 7, ll. 50-51). The “rate control scheme” is a ratio used to determine how many bits to use for encoding of each picture, and, in a simple approach, the same number of bits can be used for every frame (e.g., I, B, P) (col. 7, ll. 38-65). For *still images*, the number of bits used for encoding is set by adjustment of the quality selector 18 as discussed above (Finding of Fact 3; col. 4, ll. 21-23), and not by comparison with a *previous* video sequence frame. This initial still image encoding “will result in the first-encoded picture 36.” (Col. 5, l. 45). If a higher resolution still image than the first-encoded still image is needed, Riek discloses that a first-encoded picture 36 is encoded (step 36 in Fig. 3) using the method of Figure 4 and is then enhanced using the method of forming enhancement pictures shown in Figure 5 (step 42 in Fig. 3; col. 5, l. 39 to col. 8, l. 17).

5. Riek fails to teach *intraframe only encoding*. However, Riek discloses that the motion estimation process (which is an interframe process)

of MPEG encoder 30 “can be disabled by the logic and control circuit 32 to produce zero motion vectors” (col. 6, ll. 7-10). Riek discloses that an enhancement picture (of a still image) can be “encoded with motion vectors set to zero” and that “[o]ne way to insure that the motion vectors are set to zero is to disable the motion estimation module of the encoder and simply set the values to zero” (col. 7, ll. 22-27). In other words, should Riek’s interframe process be disabled, only I pictures would be processed (*i.e.*, intraframe processing) (*see* col. 1, ll. 37-62 describing MPEG pictures as being either I pictures which are intra-coded or P and B pictures which are encoded using motion vectors - intercoded).

PRINCIPLES OF LAW

“In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a *prima facie* case of obviousness.” *In re Rijckaert*, 9 F.3d 1531, 1532 (Fed. Cir. 1993) (citing *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992)).

“A *prima facie* case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art.” *In re Bell*, 991 F.2d 781, 783 (Fed. Cir. 1993) (quoting *In re Rinehart*, 531 F.2d 1048, 1051 (CCPA 1976)).

Appellants have the burden on appeal to the Board to demonstrate an error in the Examiner’s position. *See In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006).

ANALYSIS

Motivation for the Combination

The Examiner admits that “Riek fails to disclose intraframe only encoding of still images” (Ans. 4), and contends that it would have been obvious to modify the interframe and intraframe encoding device of Riek by eliminating the B and P pictures, leaving just the I picture and thereby creating an intraframe only encoding process (Ans. 3-4). The Examiner asserts that the motivation for making this modification would have been to eliminate the need for motion compensation (Ans. 4), that Riek suggests making such a modification (Ans. 11-12), and that legal precedent supports the obviousness of elimination of an element if the function is not needed (Ans. 10-11).

Appellants contend that there is no suggestion in Riek to modify the reference to use intraframe only encoding of still images, and that the legal precedent cited by the Examiner cannot provide the rationale for making the modification since the facts of the cases are not at all similar to those in the present appeal (Br. 7).

We agree with the Examiner that Riek suggests making the modification of eliminating the B and P pictures, leaving only an I picture for intraframe encoding (*see* Finding of Fact 5), and we agree with the Examiner that the cases cited support the obviousness of eliminating an unnecessary element. *Compare In re Wilson and Benning*, 377 F.2d 1014, 1017 (CCPA 1967) (agreeing with the Board and the Examiner that omitting an element when its function is not desired would have been obvious absent a showing of unexpected results from such omission), *and In re Karlson*, 311 F.2d 581, 584 (CCPA 1963) (noting that “[i]t is well settled, however,

that omission of an element and its function in a combination is an obvious expedient if the remaining elements perform the same functions as before”) (internal citations omitted), *with Ex parte Wu*, 10 USPQ2d 2031, 2032 (Bd. Pat. App. & Inter. 1989) (holding that it would have been obvious to omit an element where the function of that element is not desired or required).

The Control Limitation of Claims 1 and 8

The Examiner then asserts that Riek teaches the limitation of a “control means for controlling intraframe only encoding of still images for transmission *in dependence on the determined intraframe encoded size of a previous video sequence frame*” (claims 1 and 8) at column 7, lines 40 to 50 (Ans. 3-4). The Examiner also contends that Riek encodes enhancement pictures which depend on previously encoded pictures of a Group of Pictures (“GOP”) at column 5, lines 55 to 65 (Ans. 3-4 and 13).

Appellants contend that Riek fails to teach the control limitation (Br. 8). Appellants more specifically point out that the language at column 7, lines 40 to 50 of Riek discusses a rate control scheme using a ratio (*e.g.*, 6:2:1 corresponding to the number of bits for pictures I:P:B), and that this language fails to discuss intraframe only encoding of a still image “*in dependence on the determined intraframe encoded size of a previous video sequence frame*” (*see* the control limitation of claims 1 and 8) (Br. 8) (emphasis added). Appellants argue that instead, Riek teaches encoding the still images based on properties of a *current* video sequence (Br. 8).

Based on Findings of Fact 3 to 5, and the reasons that follow, Appellants’ arguments that the control limitation is neither taught nor suggested by Riek are persuasive. Although we agree with the Examiner that it would have been obvious to eliminate the B and P frames in Riek, and

thus perform intraframe encoding of just the I frame, we do not, however, agree with the Examiner that Riek as modified teaches or suggests the control limitation as set forth in the claims on appeal (*see* Finding of Fact 2).

More specifically, the Examiner has not adequately shown that Riek, as modified, meets the limitation of a “control means for controlling intraframe only encoding of still images for transmission *in dependence on the determined intraframe encoded size of a previous video sequence frame*” (claims 1 and 8) (emphasis added). None of the textual citations to Riek relied upon by the Examiner in the Answer actually provide a description of intraframe only encoding a still image based on a previously determined intraframe encoded size of a previous video sequence (*see* Ans. 4 *citing* col. 7, ll. 40-50; Ans. 13 *citing* col. 5, ll. 55-65).

The intraframe only encoding of still images in Riek, as modified, is not based on the size of a *previous video sequence frame*, but is based on a quantization amount selected by quality adjustment selector 18 (Findings of Fact 3 and 4), and/or on the intraframe encoded size of a *current* video sequence frame. In Riek, as modified, the first encoded picture 36 is a still image which is processed only as an I picture using intraframe only encoding. One of ordinary skill in the art would understand that Riek as modified teaches or suggests that still images are being interframe only encoded based on the intraframe encoded size of a still image (i.e., the first-encoded picture 36) which has been selected by a user from a *current* video sequence of frames and has already been adjusted to the desired quantization level selected by the quality selector 18 (*see* col. 5, ll. 44-56). In other words, if the motion vectors are set to zero, Riek suggests that still image resolution and intraframe only encoding are based on the size of a current

still image frame (which has been selected from a current video sequence)
(see Findings of Fact 4 and 5).

Thus, the Examiner's conclusion that "the Riek apparatus, as modified to implement only I frame only still frame encoding, has all of the features of claim 1" (Ans. 4) is not adequately supported by the teachings or suggestions of Riek (Findings of Fact 3-5). Appellants' argument that Riek fails to teach "controlling intraframe only encoding" of still images "in dependence on the determined intraframe encoded size of a previous video sequence frame" is persuasive.

In view of the foregoing, Appellants have shown that the Examiner erred in determining that Riek teaches or suggests the limitation of "controlling intraframe only encoding ... in dependence on the determined intraframe encoded size of a previous video sequence frame." Therefore, Riek fails to expressly or inherently teach all of the structural limitations of independent claims 1 and 8 on appeal. The same holds true for all of the other dependent claims on appeal because they include the noted limitation. Because at least one step or structural limitation of the claims on appeal is not met, and because the teachings of Riek would not suggest the claimed subject matter to a person of ordinary skill in the art (*Bell*, 991 F.2d at 783 (internal citation omitted)), the Examiner failed to establish a *prima facie* case of obviousness. See *Rijckaert*, 9 F.3d at 1532) (internal citations omitted) (stating that "the examiner bears the initial burden of presenting a *prima facie* case of obviousness").

CONCLUSION OF LAW

For the foregoing reasons, Appellants have shown that the Examiner erred in determining that Riek teaches “controlling intraframe only encoding” of still images “in dependence on the determined intraframe encoded size of a previous video sequence frame,” as required by all of the claims on appeal. Accordingly, the Examiner erred in rejecting claims 1 to 14, 51, and 52 under § 103(a) as being obvious over Riek.

ORDER

We reverse the Examiner’s obviousness rejection of claims 1 to 14, 51, and 52 under § 103(a).

REVERSED

gvw

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